

wherein the data center sends request messages to the web site, and receives response messages from the web site, through the plurality of Internet connection points to monitor the web site as seen by users in each of the multiple geographic locations.

Cont
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37/ 38. (New) The system as in Claim 37, wherein the data center is connected to the plurality of Internet connection points by dedicated communications links.

37/ 39. (New) The system as in Claim 37, wherein the data center monitors the web site as seen by users in the multiple geographic locations without the use of any monitoring components in any of the multiple geographic locations.

37/ 40. (New) The system as in Claim 37, wherein the data center calculates response times of the web site as seen from each of the Internet connection points.

REMARKS

The foregoing amendment is responsive to the Office Action mailed on December 20, 2002.

By the foregoing amendment, Applicant has amended the claims, and has corrected a typographical error in the specification, as shown in redline form on the attached pages. Applicant has also added new Claims 37-40 to the application. No new matter has been added.

In the Office Action, the Examiner rejected Claims 1-36 as being obvious over Chen (U.S. Patent 5,812,780) in view of Boss (U.S. Patent 6,157,618). For the reasons set forth below, Applicant submits that the claims are patentably distinct from Chen and Boss, and requests that the obviousness rejection be withdrawn. Applicant will treat Boss as prior art for the limited purpose of responding to the Office Action, but reserves the right to later show that Boss is not prior art.

I. Discussion of Cited references

A. Chen

The Chen patent discloses a system in which a client component, referred to as LoadSim, simulates the actions of many concurrent users to apply a load to an Exchange server. To the Exchange server, the LoadSim client appears equivalent to many different Exchange clients running on separate client computers on a local area network. As the load is applied to the Exchange server, the LoadSim client monitors response times of the Exchange server.

In contrast to Applicant's preferred embodiment, and to the invention as set forth in some of Applicant's claims, the system disclosed in Chen does not monitor the performance of the server as seen from multiple geographic locations without the need to have performance monitoring components in such geographic locations. In this regard, the LoadSim client appears to monitor the performance of the server only as seen from the computer on which it runs.

In addition, no mechanism is disclosed or suggested for allowing the LoadSim client to monitor the server's performance as seen from locations that are geographically remote from this computer. In this regard, Chen's objective is apparently to measure the load capacity of the Exchange server, and not to evaluate performance of the server as seen from multiple different geographic locations.

B. Boss

Boss discloses a system in which a number of geographically distributed "data gathering" client computers access a target site to measure the performance of the site as seen from their respective geographic locations. The data gathering functionality of the client computers is provided by a data-gathering client component 402 that is executed by each data gathering computer. These data gathering computers report their performance measurements to a central "UseMon" server for analysis. The UseMon server also informs the data gathering computers of the identities of the target servers to be accessed/monitored.

As with the system disclosed in Chen, the system of Boss does not monitor the performance of the target server as seen from the multiple geographic locations without the need for performance monitoring components in such geographic locations. Rather, in the system of Boss, the data-gathering client (a performance monitoring component) resides and executes on a computer in each geographic location.

II. Discussion of Claim Rejections

Applicant respectfully submits that the rejection of Claims 1-36 is improper because (A) Chen and Boss do not disclose or suggest every limitation of any independent claim, and (B) no suggestion exists within the Chen and Boss references to combine their respective teachings. Each of these issues is addressed separately below.

A. Chen and Boss do not disclose or suggest every limitation of the invention as set forth in any independent claim.

In order to establish prima facie obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. See MPEP § 2143.03. As set forth separately below for each independent claim, Chen and Boss fail to satisfy this requirement. By addressing only the independent claims below, Applicant does not intend to imply an agreement with the Examiner's assertions regarding the dependent claims; indeed, the dependent claims provide a number of additional patentable distinctions over Chen and Boss.

Independent Claim 1

Claim 1 calls for a system in which user access to a server system as experienced by users local to first and second network access locations "is monitored without the need for monitoring components local to the first and second network access locations." As discussed above, neither Chen nor Boss discloses or suggests such a capability. Rather, the systems disclosed in Chen and Boss appear to measure the performance (response times) of the target server system only as seen from the location or locations of the client/agent computers that execute the associated performance monitoring software. Specifically, Chen's system measures server response times as seen from the client computer that runs the LoadSim client; and Boss's system measures server response times as seen from each data gathering computer. Neither reference discloses or suggests a mechanism for measuring server performance as seen from a location other than the locations of these computers.

With respect to the other limitations recited in Claim 1, and namely those recited in the first four subparagraphs of the claim, the Examiner attempts to construe these limitations so as to cover the system of Boss. In doing so, the Examiner takes the position that these claim limitations cover a system in which a computer at the recited "monitoring location" (interpreted as the UseMon server of Boss) does not actually communicate with the target server system, but

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rather instructs other computers (i.e., the data gathering computers) to access and monitor the target server. Applicant respectfully submits that this interpretation is improper. In this regard, the phrase "first and second request messages that represent requests from users of the server system" cannot reasonably be construed to the cover transmissions from the UseMon server to the data gathering computers of information identifying the target site to be accessed.

Because Boss and Chen do not disclose all of the limitations of independent Claim 1, the obviousness rejection of Claim 1, and of the claims that depend therefrom, is improper.

Independent Claim 12

By the foregoing amendment, the body of Claim 12 has been amended to clarify that the system "monitors the performance of the server system as seen from multiple user locations without the need for performance monitoring components local to said user locations," as previously recited in the preamble. As discussed above, neither Boss nor Chen discloses or suggests this feature.

Boss and Chen also fail to disclose or suggest the following combination of limitations:

a plurality of communications links, each communications link connecting one or more of the plurality of agent computers to a respective network access point within a respective user location that is geographically remote from the central location;

wherein the plurality of agent computers are configured to communicate with the server system via the plurality of communications links to monitor performance of the server system as seen from the multiple user locations.

Rather, as described above, the systems disclosed in Chen and Boss measure server performance as seen from the locations in which the agent/client computers reside. No mechanism is disclosed or suggested for monitoring performance as seen from locations that are geographically remote from these agent/client computers.

Because Boss and Chen do not disclose all of the limitations of independent Claim 12, the obviousness rejection of Claim 12, and of the claims that depend therefrom, is improper.

Independent Claim 23

By the foregoing amendment, Claim 23 has been amended to state that "the performance of the server system as experienced from the network access location is measured without a need

for any performance monitoring components at the network access location.” As discussed above, Chen and Boss do not disclose or suggest this feature.

Chen and Boss also fail to disclose or suggest the method set forth in the first four subparagraphs of the claim.

Because Boss and Chen do not disclose all of the limitations recited in independent Claim 23, the obviousness rejection of Claim 23, and of the claims that depend therefrom, is improper.

Independent Claim 30

Regarding independent Claim 30, Chen and Boss do not disclose or suggest an agent computer that “is configured to use IP (Internet Protocol) addresses associated with [a geographically remote] Internet point of presence, such that all forward and reverse message traffic between the agent computer and the Internet server system flows across [a] dedicated communications link,” in the context of the other claim limitations. As discussed in the present application, this feature of the invention provides a mechanism for allowing an agent computer to communicate with the target server system via – and to monitor the server system’s response times as seen from – the geographically-remote Internet point of presence. (See present application at, e.g., page 3, lines 12-15; page 5, lines 25-27; and page 6, lines 19-22.) Chen and Boss do not disclose or suggest this feature of the invention.

Because Boss and Chen do not disclose all of the limitations of independent Claim 30, the obviousness rejection of Claim 30, and of the claims that depend therefrom, is improper.

B. No suggestion exists within the Chen and Boss references to combine their respective teachings.

Applicant also submits that the Examiner has not identified a legally sufficient suggestion in the prior art to combine the teachings of Chen and Boss, and that no such suggestion exists in the references themselves.

➤ In this regard, Chen appears to be concerned with testing the load capacity of a target server, and not with measuring performance as seen from various geographic locations as in Boss. As such, there would apparently be little, if any, reason for one skilled in the art to incorporate the distributed monitoring teachings of Boss into the load testing system of Chen. In fact, doing so would apparently be contrary to Chen’s objective of reducing the number of client computers used to load test the target server system.

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Similarly, since Boss is not concerned with testing the load capacity of the target server system, there would apparently be little, if any, reason to incorporate the teachings of Chen into the data gathering clients of Boss.

III. Conclusion

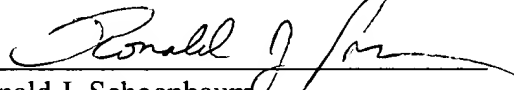
In view of the foregoing amendments and remarks, Applicant submits that the claims are patentably distinct from Chen and Boss, and requests that the application be allowed.

If any issues remain which can potentially be resolved by telephone, the Examiner is invited to call the undersigned attorney of record at his direct dial number of 949-721-2950.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

On page 2, the paragraph beginning at line 28 has been revised as follows:

The present invention overcomes the above and other problems by setting up the automated agents (agent computers and software) in one or more centralized locations or “data centers” rather than deploying the agents at each of the desired PoPs. The message traffic (HTTP requests, etc.) generated by the centrally located agents is transmitted over special links to the desired Internet connection points (referred to as “virtual points or presence”), which are typically geographically remote from the agents. Upon reaching the virtual points of presence, the message traffic flows onto the Internet. The client requests appear to the servers to emanate from users that are local to the virtual PoPs. Because there is no need to deploy and maintain automated agents or other monitoring components at the virtual PoPs, the cost of setting up and maintaining the monitoring system is significantly reduced.

Claims 12, 23 and 30 have been revised as follows:

12. (Amended) A system for monitoring performance of a server system as seen from multiple user locations, including user locations that are geographically remote from one another, **[without the need for performance monitoring components local to the user locations,]** the system comprising:

a plurality of agent computers that are locally interconnected at a central location, the agent computers configured to generate request messages to the server system as simulated users and to monitor responses from the server system to the request messages; and

a plurality of communications links, each communications link connecting one or more of the plurality of agent computers to a respective network access point within a respective user location that is geographically remote from the central location;

wherein the plurality of agent computers are configured to communicate with the server system via the plurality of communications links to monitor performance of the server system as seen from the multiple user locations;

whereby the system monitors the performance of the server system as seen from multiple user locations without the need for performance monitoring components local to said user locations.

23. (Amended) A method for monitoring access to a server system as experienced from a network access location, comprising:

at a first location which is remote from the network access location, generating a user request message that is addressed to the server system;

sending the request message over a communications link to the network access location for transmission over a computer network from the network access location to the server system, to thereby simulate access to the server system by a user who is local to the network access location;

at the first location, receiving a response to the request message from the server system over the communications link; and

determining a response time to the user request message as experienced at the network access location;

whereby the performance of the server system as experienced from the network access location is measured without a need for any performance monitoring components at the network access location.

30. (Amended) A system for monitoring access to an Internet server system on a public computer network, comprising:

an agent computer that is configured to access the Internet server system as at least one simulated user while monitoring performance of the Internet server system; and

a dedicated communications link that connects the agent computer to an Internet point of presence that is geographically remote from the agent computer;

wherein the agent computer is configured to use IP (Internet Protocol) addresses associated with the Internet point of presence, such that all forward and reverse message traffic between the agent computer and the Internet server system flows across the dedicated communications link;

whereby the agent computer monitors performance of the Internet server system as seen from the geographically remote Internet point of presence.